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**PRELIMINARY SLC-7 DRAFT EIS
REVIEW COMMENTS AND RESPONSES
(REVISION 5)**

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JUL 23 1993

MARCH 15, 1989

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PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
D. Farrel USAF AFRC- WR/ROVP	1	2.2.4/iii E-2 2.2/ 2-31	Line 1 Para. 2/ Line 3	Suggest rewording of "two preferred" alternatives using terminology that suggests "viable" alternatives as opposed to "preferred."	A	"Preferred alternatives" was deleted from text.
	2	Summary/ E-4	Para. 4/ Line 1	Define "sound levels" as background noise... if it is, if it isn't, what is source of "sound."	A	Inserted "background" into sentence.
	3	Summary/ E-5	Para. 3/ Line 2	Indicate total soil loss and/or duration of activity soil loss will occur.	A	Revised text to indicate duration of activity.
	4	Summary/ E-5	Para. 4	What effects will grading have on wildlife?	A	Text revised to state that wildlife populations in the area would decrease or be displaced due to loss of habitat, resulting primarily from grading activities.
	5	Summary/ E-6	Para. 1	It appears from your discussion here and in the rest of the document that the project will not result in an overcraft of the aquifer but will exacerbate an existing condition. I think this could be an important point which should be discussed more in-depth. For example, what are the real-world results to aquifer? Will the additional overcraft affect water quality? What impacts will this have on the area's growth (population/economics) -- especially since you indicate on E-7 that the "North County" is growing. See additional comments on this subject.	A	Discussion was rewritten to clarify ground water impacts.
	6	Summary/ E-6	Para. 2	Indicate how often per year the 90-100 dB noise levels are expected to occur.	A	Text revised to indicate frequency of activity.
	7	Summary/ E-1	Para. 2	Provide estimated time for onset of construction and initial project operation.	A	Planned construction and operations start dates were inserted into text.
	8	Summary/ E-7	Para. 3/ Line 1	Define or eliminate "certain" in sentence 1. Also suggest that 88 tons of hazardous waste is a significant amount... but perhaps not relatively so. Need to make a distinction between significant and relative significance. See additional comments on this subject.	A	"Certain" deleted from text.
	9	Summary/ E-7	Para. 4/ Line 4	Use of "However" in sentence 3 implies you believe that because no major accidents have happened since 1958, none will in the future. Eliminate "However."	A	"However" deleted from text.

03/15/89

1

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 2 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
D. Farrel USAF AFRC- WR/ROVP	10	2.1.3.3/ 2-16	Para. 2/ Line 4	Is a new treatment plant needed or not? What does the project call for? Can SLC-6 handle extra loading? These questions should be answered if an either/or scenario is brought up in EIS.	A	Option for new plant deleted and paragraph rewritten.
	11	2.3.2/ 2-46	Para. 2	Same overcraft implication here. What is the expected result of impact to ground water in long term?	A	Discussion was reworded to clarify ground water impacts.
	12	2.3.5/ 2-50	Para. 3/ Line 3	Indicate to what extent SLC-7 would affect the reported 1-2% regional emissions figures.	A	Sentence rewritten to indicate magnitude of SLC-7 impact.
	13	2.3.5/ 2-51	Para. 3/ Line 4	Explain what is meant by "standard VAFF launch operational control procedures..." How do they minimize migration of pollutants?	A	Sentence reworded.
	14	2.3.5/ 2-52	Para. 3/ Line 5	Is this disposal of HW (to Casmalia) acceptable in light of EPA's most recent landfill disposal requirements? Assuming that it is, what about after 1991 (or once facility is operational) -- there is a reasonable chance that Casmalia may not be available for disposal in five years -- what are the disposal implications?	A	References to Casmalia deleted throughout text.
	15	2.3.7/ 2-53	Para. 2	Include number of events per year that noise will be elevated to levels indicated.	A	Frequency of activity indicated in text.
	16	2.3.7/ 2-53	Para. 3/ Line 7	Delete "as necessary" from end of 4th sentence.	R	Not all persons stationed nearby would be required to wear hearing protection.
	17	2.3.10/ 2-56	Para. 3-4	Will increase in volume of hazardous materials being transported have any impacts that should be noted in this section?	R	The number of transports required would not impact transportation resources.
	18	2.3.11/ 2-57	Para. 3	To what extent and at what pH can acid deposition be expected? What are the cumulatives?	A	Text has been revised. Additional information has been added to Sections 4.11.1.3 and 4.11.2.1.
	19	2.3.13/ 2-58	Para. 3/ Line 10	What if AF does not acquire affected private lands?	A	Text has been revised in Section 4.11.2.
	20	3.6.2.3/ 3-81	Para. 3/ Line 9	Same as Comment 14.	R	Outside of the scope of this analysis.
					A	References to Casmalia deleted throughout text.

03/15/89

2

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 3 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
D. Farrell USAF AFRC- WR/ROVP	21	3.7.1/ 3-88	Para. 5/ Line 2	The statement that the airfield "maintains a CNEI of less than or equal to 65 dBA in the surrounding area." needs some clarification -- what does "the surrounding area" mean? How can we regulate noise emissions to 65 dB -- especially from aircraft? Do you mean that the 65 dB contour does not extend beyond base boundaries?	A	Paragraph reworded to clarify sound levels.
	22	3-148	Fig. 3.13.2	Airfield and housing "colors" appear to be the same both on key and small cuts of pic.	A	Figure has been revised.
	23	4.2.3/ 4-18	Para. 1	Include operations (water use) figures in this discussion. Again, what are effects of exacerbated overdrift?	A	Wording has been changed to clarify impacts.
	24	4.15.1/ 4-133		Discuss long-term effects indicated in Section 2.3.2. What happens to long term productivity when H ₂ O reserves are depleted?	A	Potential impacts to long-term productivity were inserted in text.
	25	4.16.4 4-136	Para. 4	The discussion, as presented, seems to down-play impacts to ground water from increased drawdown-- should it?	N	Project contribution to drawdown is stated as being a significant impact.
	26	7-7		Add the following to list of recipients: Department of Interior Regional Environmental Officer Attn: Patricia Port P.O. Box 36098 450 Golden Gate Avenue San Francisco, California 94102	A	Recipient was added to list.
				General Comments: Lots of information presented -- some important things may be "hidden" between restated, minimally important information. Could minimize this information overlap by using references. Text was somewhat difficult to follow and to form big picture for each alternative.	N	

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03/15/89

3

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Telecon comments Terry Yonkers, et al. USAF HQ AFSC/DEV	1	General		Lack of discussion of alternatives. No rationale for the rejection of SLC-6. Secretary Aldridge has put this into mothballs and this should be available for utilization for Titan IV SRMU.	A	Text has been rewritten to address SLC-6 alternative.
	2	General		No-Action Alternative is not fully discussed. It is a feasible alternative. Need to fully discuss impacts to the environment and national security which would result from implementation of the No-Action Alternative.	N	No more information is available from USAF to address the No Action alternative.
	3	General		In sections near the rear of the document, references to "previous studies" are given without citation. Please give citation.	A	Text has been revised.
	4	General		Discussion of alternatives is biased toward Cypress Ridge. Need to mention environmental impacts and costs at alternative sites and indicate actual reduction of payload weight if launched from CCAFS or KSC.	A	Text has been revised.
	5	Summary/ E-7	Para. 3/ Line 4	Reference to 88 tons of hazardous waste. Would this impact the USAF directive to reach "Baseline 1985" as directed by 1991-92? Bring forward discussion of minimization and treatment modes from other chapters. Note that not all material sent to Casmalia is landfilled. Some is treated and not disposed to land.	A	Text has been revised to delete references to Casmalia and the options available for waste disposition.
	6	1.1/ 1-1	Para. 2	Question language used to refer to CEQA.	A	Text has been revised.
	7	1.5.5.3/ 1-21	Para. 2	Check reference to Porter-Cologne Water Quality Act. Does this apply to USAF?	N	The Act is administered by the RWQCB, which has jurisdiction over water-related activities at VAFB.
	8	1.5.5.7/ 1-22	Para. 3	Rewrite statement regarding CERCLA and SARA to show that it only applies to past activities. Reference VAFB Phase II Remedial Action Plan.	A	Text has been revised.
	9	2.2.4.1/ 2-37	Para. 2/ Line 5	Bias towards Cypress Ridge evidenced by soil borings done there. Modify text to reduce apparent bias.	A	Reference to soil borings has been deleted.
	10	Volume II Appen- dices		After each set of comments, give page number and paragraph where each concern is addressed.	A	Text has been revised.
	11	4.6.2.2/ 4-65	Para. 6	Reword text to make sure that wastewater numbers add up and are clearly understandable.	A	Text has been revised.

03/15/89

4

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Susan E. Bowman USAF SD/JAN	1	1.1/ 1-1	Para. 2	The references to CEQA on p. 1-1 appear to contain some inaccuracies, e.g., NEPA does not address the effect of more stringent state requirements. This reference could be eliminated altogether or I can provide an alternate statement. I recommend the former to avoid raising unnecessary public comment.	A	Reference eliminated.
	2	General		Discussion of alternatives appears to give short shrift to them. Documentation should be referenced to support the conclusions. It comes to my mind that the Space Launch Support Feasibility Study and/or the EAs and EISs dealing with other launch activities may be used to support the exclusion of the alternatives, e.g., the South Pacific Islands for economic reasons.	A	SLC-6 alternative has been added to text. More information on South Pacific alternatives is not available from USAF.
	3	General		Concerns over the sufficiency of the impact of earthquakes on buildings and operations have been raised. For example, the impact on the environment from fuel leaks if an earthquake occurs during fueling operations could be crossed referenced between the geology and operations topics. Also, some items, such as earthquake-safe structures were addressed as assumed mitigations rather than as the engineering baseline for the facilities as would appear to be the case.	A	Text has been modified to reference the Risk Assessment and section on health and safety for detailed information.
	4	General		The safety issues of concern to the public may be improved upon by including data, such as air quality data, from the Titan and Shuttle accidents. A discussion of short-term and long-term impacts from such events appears appropriate.	N	Safety issues are discussed in the Risk Assessment.
	5	General		With regard to endangered species: • The status of the Unarmoured Three-Spine Stickleback in Honda Creek should be verified. • Since the USNMFS has notified the Air Force that a "take" permit will be issued for Titan operations from SLC-4 at VAFB, this topic should be thoroughly addressed in the SLC-7 document as well.	A R	The Stickleback is present in Honda Creek. If necessary, requirements for and provisions of a Take Permit would be established subsequent to Section 7 consultation.

03/15/89

5

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Maj. Daniel D. Berlind USAF SD/SGX	1	2.1.5.2/ 2-30	Para. 1	How does the 26,000 gallons of water sprayed during a Titan IV launch compare with SLC-4 Titan 34D operations and previously predicted SLC-6 STS operations?	N	Water use at SLC-7 is roughly comparable to that used during the Titan 34D launch and less than predicted for STS operations.
		2.3.3/ 2-47	Para. 5	What is the resultant acidic deposition strength and mass loading pattern predicted?	A	Figure 4.3.1 has been revised.
				How will depositions be affected by various meteorological conditions and payload sound suppression requirements?	A	TRAJM model was run for additional scenarios and results included in Biological Assessment. There are no sound suppression requirements.
	2	3.11.2.1/ 3-127	Paras. 1 & 2	Do the various listed emergency support teams exist? Are qualified individuals equipped with effective tools to provide such emergency support?	N	Information was supplied by USAF. Issues such as tools are responsibility of USAF.
	3	3-130	Fig. 3.11.2	Figure plots an unrealistic THC since winds rarely maintain uniform velocity and direction across such a dynamic domain. The EIS should utilize wind profiles based on actual windfields as documented by the Naval Postgraduate School and others, for hypergol and hydrogen chloride corridors. Due to eddy effects, off-base impacts from Jalama to Santa Barbara may be miscalculated.	N	This graphic is for example purposes only, operational decisions would be made with appropriate data in a real-time mode.

03/15/89

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF 1STRAD/ET	1	General		In the event of an accident at the main entrance, alternate access routes similar to SLC-6 should be considered.	A	Text has been revised.
	2	General		A final design review of SLC-7 must be approved at 15 AF and HQ SAC.	N	Beyond the scope of this document.
	3	General		Change "Federal Corrections Institute" to "U.S. Penitentiary."	A	Changes have been made in text.
	4	General		Siting approval must be granted on the temporary construction laydown areas and support facilities.	N	
	5	Summary/ E-3	Para. 1/ Line 1	Specify to what depth that it is known ground water does not occur.	A	Text has been revised.
	6	Summary/ E-3	Para. 3/ Line 7	Either delete "Riparian Wetland," add "pocket" before "wetlands," or define the reference to two types of wetlands. Delete capital letters on "Exotic Species," "Wetlands" and "Riparian Wetlands."	A	Text has been revised.
	7	Summary/ E-6	Para. 2/ Line 5	Change "AL ₂ O ₃ " to Al ₂ O ₃ ."	A	Text has been revised.
	8	1.5.1.4/ 1-10	Para. 3	Provide 1STRAD/ET with a copy of the Biological Assessment.	N	Document will be provided for 1STRAD/ET to review.
	9	1.5.4.1/ 1-17	Para. 1/ Line 9	Change "may be" to "will be."	A	Text has been revised.
	10	1.5.4.3/ 1-19	Para. 2	Existing permits may require applications for modification of their conditions to allow acceptable support to SLC-7 and still meet Santa Barbara County Air Pollution Control District (SBCAPCD) requirements. Change document to reflect this statement.	R	It is anticipated that existing permits will be adequate, with the exception noted.
	11	1.5.4.3/ 1-19	Para. 4/ Line 2	Magnitude is not relevant here concerning application of the New Source Review (NSR). As long as the project emits nonattainment pollutants or their precursors, NSR applies regardless of quantity. Change paragraph to reflect this information. Be aware that the NSR can be a lengthy, complex process.	A	Text has been revised.
	12	1.5.4.4/ 1-19	Para. 5	The banked offsets, as SBCAPCD is examining the existing banking agreement, may or may not be available. Change paragraph and analysis to reflect this information.	A	Text has been revised.

03/15/89

7

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 2 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF ISTRAD/ET	13	2.1.3.3/ 2-16	Para. 2	Mention the UV/ozone treatment system for treatment of accumulated hydrazines. This is necessary, if not mandatory, due to the fact that currently the SLC-6 treatment facility cannot treat such wastewaters.	R	No UV/Ozone treatment currently proposed or available.
	14	2-23	Fig. 2.1.10	ISTRAD/ET has not approved alternate borrow pit locations (Santa Ynez Reservation, Manzanita Road). Further coordination with ISTRAD/ETN (Richard Nichols) is required.	N	
	15	2.2.3/ 2-34	Para. 5	Describe in greater detail why SLC-6 cannot be used. In addition, describe how long use of SLC-5 for Scouts is anticipated. Describe difference between Titan NUS and Titan Centaur and why SLC-4 cannot be used. The EIS should justify not using these alternate existing launch sites in much greater detail.	A	The SLC-6 alternative has been addressed in the text.
	16	2-42	Table 2.3.1	Add "Air emissions" as a "potential effect" to "Nearshore marine birds, mammals."	A	Table and text have been revised.
	17	2.3.2/ 2-46	Para. 2/ Line 7	You state that the annual requirements for water are 120 acre-feet/year during project construction, but on page 4-14, you state that this figure is 380 acre feet/year. Please correct the figures.	A	Text has been revised.
	18	2.3.4/ 2-49	Para. 2/ Line 8	Animals are not declining should include Ferruginous hawk.	A	Text has been revised to include Ferruginous hawk in listed species.
	19	2.3.5/ 2-50	Para. 3	It is not realistic to state regional air quality will not be impacted. To the contrary, any project with projected emissions of nonattainment pollutants or their precursors would receive close scrutiny by the SBCAPCD, their failure to do so would be irresponsible. Change EIS to reflect this information.	A	Text has been revised.
	20	2.3.5/ 2-51	Para. 3/ Line 5	Migration of pollutants approaching and entering inland uncontrolled areas near VAFB will require close monitoring.	N	

03/15/89

8

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 3 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF ISTRAD/ET	21	2.3.6/ 2-51 and 2-52	Para. 5 Para. 1	Chemical toilet wastes and sewage sludges are presently not allowed to be discharged to the Lompoc POTW. Until this policy changes, these wastes/sludges will have to be disposed of at the Santa Maria POTW. The following pages also require correction on this subject: Page 2-71, Item 1; Page 4-61, Section 4.6.1.1; Page 4-70, Section 4.6.3.1; Page 2-52, Section 2.3.6, paragraph 2; The SLC-6 treatment plant was never designated to treat hazardous wastewater. Furthermore, VAFB has no permit to treat hazardous wastes. Therefore, "hazardous" should be changed to "industrial" in the phrase "SLC-6 Hazardous Wastewater Treatment Plant." Other sections of the document where this should be changed are: Page 4-66, paragraphs 2 and 3; Page 4-69, paragraph 1. However, do not change "hazardous" to	A	Text has been revised.
	22	2.3.6/ 2-52	Para. 3	VAFB does not use Casamalia Resources landfill. Therefore, delete all references to Casamalia and just leave as is "... disposal at a Class I landfill." This also needs changing at the following other pages at the text: page 2-52, Section 2.3.6, paragraph 4; Page 2-72, Item 3; Page 4-62, Section 4.6.1.3, paragraph 1, line 4; and Page 4-70, line 9 from the top.	A	References to Casamalia have been deleted.
	23	2.3.13/ 2-58	Para. 3	State that the permanent loss of agriculture land (grazing land) will not be significant due to the loss of a relatively small amount of acreage.	A	Text has been revised.
	24	2.4/ 2-62	2.4.3/ Item 6	Change to read "A qualified biologist will inspect all construction activities daily or as required by ISTRAD/ET."	A	Text has been revised to include environmental monitoring as needed.
	25	2.4/ 2-63	2.4.4/ Item 3	Change to read "A qualified biologist will inspect all construction activities daily or as determined by ISTRAD/ET."	A	Text has been revised to include environmental monitoring as needed.
	26	2.4/ 2-63	2.4.4/ Item 5	Add "A monitoring program will be developed and implemented to assess impacts from noise and air emissions to vegetation and wildlife, with an emphasis on listed species."	A	Table has been revised.
	27	2.4/ 2-64	2.4.5/ Item 4	Add "Curtailed of equipment operation to reduce emissions, if required by SBCAPCD."	A	Text has been revised.
	28	2.4/ 2-66	2.4.9/ Item 3	Change to read "Qualified archaeologist and a Native American will monitor all construction activities as outlined in Section 4.9.4."	A	Text has been revised.

03/15/89

9

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 4 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF 1STRAD/ET	29	2.5/ 2-70	2.5.5/ Item 1	A 10 percent increase in STS power plant emissions is significant and would receive SBCAPCD scrutiny. Reflect this statement in the EIS.	N	Discussion is contained in Section 4.5.
	30	3-25	Table 3.2.1	The values presented for iron and aluminum are in units of g/l (not mg/l). Recommend moving the decimal point three places to the left for these parameter values so that they will also be mg/l (i.e., 4900 mg/l for iron would become 4.9 g/l). Also, units for turbidity are "NTU," not "mg/L," And specific conductance are "mho/cm," not "ohms."	A	Table has been modified to show correct units.
	31	3-26	Table 3.2.2	Recommend changing "ND" to "NR" (for not reported) or "NA" (for not available), since ND in lab terminology generally means nondetectable or below detection limits. This table is missing "lead" . . . it should be included. Also, I recommend changing "RWQCB Drinking Water Standards" to "Drinking Water Standards/Criteria." Change "2.4S-TP Silvex" to "2.4.5-TP (Silvex)." The standard for Endrin is 0.2, not 2.0. The "0.0" that you report as a standard for PCBs is actually an "MCL goal," not a standard. Change "ND" to either "NR" or "NA" (see Page 3-26 comment). And change "NM" to either "NA," "NR," or "ND" (not detected), whichever applies.	A	Table has been revised. Table has been revised. Tables have been revised.
	32	3-27	Table 3.2.3	Insert a map depicting the location of the Monarch butterfly roosting sites.	A	Table has been revised.
	33	3-63		SBCAPCD has declared North County in nonattainment for PM ₁₀ in a letter to 1STRAD/ET. Modify statement.	R	Will be contained in Biological Assessment.
	34	3.5.1.2/ 3-72	Para. 2/ Line 1	Delete sentence "Domestic waste contains no substance that could be considered hazardous" (it's not a true statement). Consider replacing it with "Domestic wastewater principally contains materials which are readily biodegradable, and if properly treated and disposed, does not present a health or environmental problem."	A	Text has been revised.
	35	3.6.1/ 3-77	Para. 2/ Line 3		A	Text has been revised.

03/15/89

10

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 5 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF 1STRAD/ET	36	3.6.1/ 3.77	Para. 4/ Line 2	Replace sentence 2 with "For some liquid waste, the Loropoc POTW may authorize its discharge into its treatment facility. The POTW may in turn request approval for this discharge from the RWQCB and EPA, if it is not covered under Vandenberg's permit with the POTW."	R	The specifics are addressed in Section 3.6.3.
	37	3.6.1/ 3-79	Para. 1/ Line 4	Vandenberg does not dispose of hazardous waste via incineration. Delete this statement.	A	Text has been revised.
	38	3.6.2.2/ 3-79	Para. 4/ Line 4	Change "... provided a permit from the RWQCB has been granted" to "... provided it does not violate Vandenberg's future permit under the POTW."	A	Text has been revised.
	39	3.6.3.3/ 3-85	Para. 1	Mention UV/ozone treatment process here.	R	No UV/ozone treatment proposed or available.
	40	3.13.2.1/ 3-147	Fig. 3.13.2	Agriculture should be shown as a land use on roughly 36,000 acres of VAFB (1,000 acres crops, 35,000 acres grazing).	A	Table has been revised.
	41	4.3.2.1/ 4-23	Para. 3/ Line 1	State impacts to Monardella. State impacts to population if these individuals could be lost as a result of air emissions. Add this impact to population impacts described on page 4-27, paragraph 3. In order to assess possible impacts from HCl, a survey of SLC-4 may provide a clue.	A	Text has been revised.
	42	4.3.4.1/ 4-28 and 4.4.5/ 4-46	Para. 1 Para. 1	The needs and requirements for environmental monitoring are addressed in AFR 19-1, "Protection and Enforcement of Environmental Quality" and AFR 19-7, "Enhancements Monitoring." These regulations constitute, in part, USAF directives for compliance with the National Environmental Policy Act of 1969. In order to comply with current federal and state environmental laws and precautions mandated by sound judgment for operations at VAFB, an operational monitoring program is needed.	A	Text has been revised.
	43	4.5.1/ 4-49	Para. 1	Impact to air quality is significant, since SBCAPCD has declared North County in nonattainment for ozone and PM ₁₀ , any new emissions sources for these pollutants or their precursors are important. Modify document to reflect this change.	R	NSR rules are designed to ensure that emissions are regulated to a level below significance.
	44	4.5.1/ 4-49	Para. 2/ Line 2	The correct status on PM ₁₀ attainment is cited here. This should be reflected in paragraph 1 on page 3-72.	A	Text has been revised.

03/15/89

11

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 6 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF ISTRAD/ET	45	4.5/ 4-49		The entire discussion here repeatedly emphasizes that emissions from the project area are of such small quantities that they are not significant. This is an unrealistic view. SBCAPCD policy reflected in a recent letter to ISTRAD/ET from the SBCAPCD is that the base (VAFB) is in a nonattainment area for ozone and PM ₁₀ plus their precursors. Regulatory reality demands that SBCAPCD scrutinizes the project carefully as NSR applies here, in addition, although an air quality impact analysis may not be demanded, increment analysis may be involved, certainly offsets would be involved. This all leads, from recent experience, for the process of permit acquisition to be demanding. All parties should be aware of these facts. Modify EIS to reflect this information.	R	The significance of impacts to air quality are predicated upon NSR standards and procedures which are designed and implemented to avoid significant impacts. This is not to say that the project would not receive scrutiny from SBCAPCD that may entail the requirements outlined here.
	46	4.6.2.2/ 4-66	Para. 1	Replace first sentence with "This wastewater may contain various heavy metals, aluminum (from the Al ₂ O ₃), chlorides (from the HCl), and possibly hydrazines, nitrites, and nitrates (if any spills or releases of hypergols occurred)." Also, insert a statement that any residual hydrazine (if detected) would neutralize prior to any further processing of the wastewater.	A	Text has been revised.
	47	4.6.2.2/ 4-66	Para. 2	The SLC-6 treatment plant is currently not permitted to treat hazardous waste. In order to do so, it is necessary to obtain a treatment permit. In addition, this facility is incapable of treating any wastewater containing hydrazines without damage to the membranes. Therefore, a UV/ozone treatment unit is mandatory.	A	Text has been revised. A treatment permit would be necessary in order to treat RCRA-listed wastes. A UV/ozone treatment unit would be utilized if available and appropriate.
	48	4.6.2.2/ 4-66	Para. 3	Delete the word "brine" in "the produced filter cake." Change "Table 4.6.1" to "Table 4.6.2."	A	Text has been revised.
	49	4-67	Table 4.6.2	Replace last sentence with "If the product water is to be reused/recycled, then the wastewater could also be processed by the R-O unit to reduce TDS, chlorides, and any remaining metals" (i.e., it makes no sense to separate the product water from the brine with the R-O unit, only to recombine the two fractions in the evaporation pond).	A	Text has been revised.
	50	4-67	Table 4.6.2	Change "ND" to "NR" or "NA" (see comment for page 3-26). Show concentration of nitrosamines left over from chlorination of the hydrazines. Savings from using UV/ozone treatment process.	R	Table has been revised to show that wastes are from a normal launch (i.e., they contain no hypergolics).

03/15/89

12

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 7 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF ISTRAD/ET	51	4.6.2.2/ 4-69	Para. 1	The RWQCB has requested that the water be recycled and used again. Discharge would result in losing it to the ocean, which is a poor water conservation practice. This should be listed as a mitigation measure for the significant effect of depleting ground water storage.	N	Recycling is currently not proposed. The amount of water used for each launch would be about two percent of total annual water use at SLC-7.
	52	4.6.2.3/ 4-70	Para. 1/ Line 7	Delete "EPA."	R	Facility is permitted by EPA under authority of RCRA.
	53	4.6.3.2/ 4-72	Para. 2/ Line 2	The SLC-6 treatment plant is currently not permitted to treat hazardous waste. Violation of RCRA would result if hazardous waste were treated without one.	N	Text has been revised.
	54	4.6.4/ 4-74	Para. 4	State who will be responsible for funding a new hazardous waste storage facility.	A	Text has been revised to show USAF is responsible party.
	55	4.9.4/ 4-92	Para. 6	In order to best define terms of construction monitoring, insert the following: (1) A pre-grade meeting will be held to inform the construction contractor of grading monitoring procedures. Requirements of the Archaeological Resource Protection Act prohibiting removal of archaeological material from federal property without a permit will also be discussed. (2) All grading and other earth-disturbing activities within archaeologically sensitive areas, as defined by the BHPO, will take place in lifts of nine inches or less and will be monitored by an archaeologist and a Native American. Each newly exposed surface will be inspected by the monitors. The monitors will work in pairs (one archaeologist with one Native American), at least one pair at each work location where grading is occurring. The monitors will observe all earth-moving, looking for cultural material. (3) If cultural material is found, the following procedures will be implemented: (a) Earth-moving or grading within 150 feet of the discovery will be temporarily diverted and the archaeological field director will be notified.	R	This level of detail is outside of the scope of this document. The issue is addressed in summary form in the EIS.

03/15/89

13

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 8 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF 1 STRADJET				<p>(b) The archaeological field director will determine whether the field is an isolate (less than three cultural items) or a site (three or more cultural items) using shovel probes if necessary. If it is an isolate, its location will be recorded, the material will be collected, and construction can proceed. This, in most cases, should require one hour or less.</p> <p>(c) If the find is a site (three or more cultural items, each within 20 meters of the next), grading equipment will be diverted and the BHPO (Larry Spante) will be notified. Site type and boundaries will be determined by following the evaluation procedures specified in the HPP. These procedures include shovel test probes, shovel trenching, and a minimum of two hand-excavated 1-meter by 1-meter units per site or a minimum of one hand-excavated 1-meter by 1-meter unit per 400 square meters of the site area. Evaluation procedures may require one or more hours, depending on the size of the area requiring evaluation.</p> <p>(d) When the site type and boundaries have been determined, the archaeological field director will deliver a 1-page summary of testing results to the BHPO at 1STRADJET. The BHPO will agree or disagree with the evaluation within 24 hours. If the BHPO agrees with the evaluation, he will sign the form and notify the archaeological field director, at which point, either (e) or (f) below will occur, depending on the site type. If the BHPO disagrees with the evaluation, the SHPO will be consulted.</p> <p>(e) If the site type is determined to be a low density location, construction can proceed; no further mitigation is required. Low density locations consist of flake scatters having an average of less than one cultural item greater than 0.25 inch in size per square meter and/or less than 20 flakes of any size per cubic meter.</p>		

03/15/89

14

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 9 of 9

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Orville G. Robertson USAF ISTRAD/ET				(f) If the site is a high density location, sequentially reoccupied location, camp, residential base, or village, the data recovery procedures (mitigation) specified by the HPP for that site type will be implemented. Construction cannot proceed until the BHPO has determined that adequate data recovery (mitigation) has occurred. Such a determination will be stated in writing.		
				(g) After a site has been mitigated, if additional cultural material is exposed by grading within the same site, additional mitigation (excavation) will not be required unless the additional material represents a new kind of data not recovered during previous mitigation. Such new data would consist of artifact classes and features not recovered during previous mitigation. Features may include hearths, cooking pits, and post holes. Even if no additional mitigation is required, the newly exposed cultural material will be mapped and collected.		
	56	4.13.2/ 4-127	Local Impacts	Add impacts to base agricultural lands.	A	Text has been revised.
	57	6.0/ 6-1		Add "Richard Nichols, VAFB Botanist, ISTRAD/ET and Carolyn Palermo, Wildlife Biologist, ISTRAD/ET."	A	Text has been revised.
	58	General		Cumulative impacts should include discussion of Advance Launch System (ALS) Program. This program has received publicity and funding for design. The program may not be 100 percent sure, but is nonetheless a probable project.	R	Discussion of ALS program with WSMC indicates that ALS may not be a VAFB program.

03/15/89

15

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
LTC Thomas H. Condit USAF 1STRAD/SE	1	2.1.2/ 2-2	Para. 4	Suggest a traffic engineering study be done to look at the possibility of widening--and especially straightening--Coast Road in several places (e.g., at SLC-6 where the road crosses the railroad; at the 90 degree turn at the top of the hill; just before Honda Ridge Road). Coast Road had a great deal of congestion during SLC-6 construction (consider hauling of fill dirt and materials, and future transfer of hypergols).	R	Consultation with WSMC/ST indicates that such study is not necessary.
	2	2-7	Fig. 2.1.4	When the site plan is prepared for this facility, the POV Parking Area must be located at least 100 feet or intraline distance (K18), whichever is greater, from the nearest potential explosion site (AFR 127-100, para. 5-18). Also, suggest considering a helipad for emergency medivac; road distance to base or town medical facilities is in excess of 15 miles.	N	
	3	2.1.3.3/ 2-13	Para. 2/ Line 9	The fuel to deluge water ratio should be at least 1:5.	R	Consultation with WSMC/ST indicates that recommended levels (1:3) are adequate.
	4	2.1.3.5/ 2-19	Para. 3	The Safety Plan should also recognize AFOSH Standards.	A	Text has been revised.
	5	4.11.1.2/ 4-105		There is only one surface road/route in and out for personnel at SLC-7. Where is their escape route in the event of a toxic mishap or conflagration? Also consider evacuation route from the "contractor village" south of SLC-7 (Fig. 2.1.7, Pg. 2-14).	R	Consultation with WSMC/ST indicates that additional egress is not necessary.

03/15/89

16

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Paul Toft USAF SD/DEC	1	2.3.6/ 2-52	Para. 1/ Lines 1 & 2	Replace "the Lompoc" treatment facility with "an approved" treatment facility.	A	Text has been revised.
	2	2.3.6/ 2-52	Para. 1/ Line 3	Change text to ... would "possibly" be added to the ...	R	Text is correct as stated.
	3	2.3.6/ 2-52	Para. 3/ Lines 4, 5 & 8	Change "EPA" hazardous waste storage facility to "RCRA permitted" hazardous waste storage facility, and remove references to Casmalia.	A	Text has been modified.
	4	2.3.6/ 2-52	Para. 4/ Line 4	Delete last sentence on page (another reference to Casmalia).	A	Reference to Casmalia has been deleted.
	5	3.6.2.2/ 3-79	Para. 4/ Lines 2 & 3	Delete the word "North" in "North VAFB launch facilities" and change "can" be added to the Lompoc sanitary sewage system to "could" be added.	A	Text has been modified.
	6	3-80	Table 3.6.1	There is no TCF recycle on VAFB. We also recycle paint thinner.	R	Reference USAF 1988j.
	7	3.6.2.3/ 3-81	Para. 2	Delete "North" from "North VAFB."	R	Discussion addresses regional considerations, defined for the EIS as Lompoc and North VAFB.
	8	3.6.2.3/ 3-81	Para. 2/ Lines 6 & 7	Change "EPA" to "RCRA" permitted.	A	Text has been modified
	9	3.6.2.3/ 3-81	Para. 3/ Line 9	Change "Class I landfill in Casmalia" to "EPA Class I Landfill."	A	Text has been modified.

03/15/89

17

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Bernie Marcos USAF SD/DECE	1	2.1.3.5/ 2-19	Para. 2	Add Explosive Safety Plan, COE Safety Manual and Hazard Analysis onto the List of Regulations	A	Text has been revised.
	2	2.1.3.5/ 2-19	Para. 3	On Federal Construction Jobs, Cal OSHA has no jurisdiction. Therefore, question reference to OSHA in safety plan.	R	Reference to OSHA is to Federal Agency.
	3	2.4/ 2-61	2.4.1 Item 3	Use of revegetation is for reduction of erosion and surface runoff.	A	Text has been revised.
	4	2.4/ 2-62	2.4.3 Item 1	Recovery of specimens of special interest plants will become a part of the Site Restoration Plan. Therefore, rather than "interested parties," these parties will be contractor-hired consultants.	R	Recovery of specimens is not part of site restoration plan. It occurs prior to construction.
	5	2.4/ 2-62	2.4.3 Item 5	The use of fabric is very expensive. 1STRAD/ET had recommended the use of straw and netting. Is there a problem with that?	A	Text has been changed to read "materials" instead of "fabric."
	5b	2.4/ 2-64	2.4.6 Item 2	Please add to mitigation "if used to accept waste brine solution" from SLC-6 and SLC-7 simultaneously.	R	Rehabilitation of ponds may be necessary due to characteristics of waste.
	6	2.4/ 2-64	2.4.6 Item 3	I do not see this item as a waste management mitigation measure as written here. Please clarify.	R	Adopting this measure is, in effect, waste minimization.
	7	2.4/ 2-65	2.4.7 Item 2	Please clarify if there will be a follow-on requirement to the monitoring stated here.	N	No follow-on requirements are known at this time.
	8	2.4/ 2-66	2.4.9 Item 7	Please clarify what is meant by "intact site areas."	A	Text has been revised to read "intact archaeological sites."
	9	2.4/ 2-67	2.4.9 Item 10	Please clarify how the Coast Guard Rescue Station is tied to SLC-7. If not, why is it a mitigation requirement.	A	Text has been revised to read "former U.S. Coast Guard Rescue Station (Boathouse)."
	10	2.4/ 2-67	2.4.11 Item 1	This statement does not agree with the list of preliminary design considerations of SLC-7 DEIS sent to this office in October 1988.	A	Text has been revised for consistency.
	11	2.5/ 2-71	2.5.6 Item 1	SLC-7 domestic waste will be treated by its own sewage plant and not added to Lompoc sewage treatment plant.	A	Text has been revised.
	12	--	--	A list of preliminary design considerations was sent to us.	N	

03/15/89

18

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Maj. Robert Morris WSMC/SP	1	1-5 and 1-6	Para. 2 & 3 Fig. 1.3.1	The values for launch azimuths do not appear to be correct. Have WSMC/SE verify these. Also insure that whatever values are used are the correct values for space launch, not a ballistic launch.	A	Text and figure have been modified.
	2	2-1	Para. 2	The phrase "... serve as a backup..." implies that the NUS configuration will only be launched from SLC-7 if it cannot be launched from SLC-4E. This is not true. Current mission models require that the NUS configuration will be launched from SLC-7 on a routine basis.	A	Text has been revised.
	3	2-18	Para. 2	Bldg. 398 was originally built to store SRM segments for the Titan IIIM. It was then enlarged for use by the Space Shuttle program.	R	This facility was built for the Shuttle.
	4	2-18	Para. 4	Does not specifying the payload facilities and/or saying that new facilities will be built cause an impact/delay in processing this EIS?	A	Text has been revised to show that existing SLC-4 facilities would be used.

03/15/89

19

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
M. J. Abbot USAF WSMC/SE	1	Summary E-7	Para. 2	Three launches per year may be appropriate for SLC-7, but some mention should be made of a cumulative annual launch rate for all space boosters.	N	Subject is not discussed here since it is not a significant impact. Cumulative effects are addressed in Section 4.13.
	2	3.11.2.2/ 3-128	Para. 1	Very good, short but comprehensive overview of WSMC Range Safety procedures.	N	
	3	3-124	Fig. 3.11.1	The propellant transfer route described on Page 3-123 is not "hashed" on Page 3-124. The route should follow Highway 101 from Los Alamos to Buelton and then west toward Lompoc.	A	Figure has been modified.
	4	3.11.2.2/ 3-129 4.5.2.1/ 4-56	Para. 4 Para. 3	Re hypergolic emissions from propellant spills or catastrophic aborts: recommend more discussion on potential impacts of unplanned releases of hypergolic vapors.	R	Detailed discussions of accidents are contained in the Risk Assessment.
				Inaccurate statements made re emissions from vehicle failures. Contact Mr. Darryl Dargitz, WSMC/SEY, for details.	A	Text has been revised.

03/15/89

20

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Robert Hardaway USAF WSMC/STAS	1	2.1.3.1/ 2-10	Para. 1/ Line 12	Does Centaur fall in the ocean?	A	Text has been revised.
	2	2.1.3.3/ 2-16	Para. 3/ Line 2	Remote TV/film cameras only during Launch Ops.	R	There are permanent video installations proposed.
	3	2.1.3.5/ 2-19	Para. 4/ Line 4	Is there a suppression system for Ox holding area?	N	There is not.
	4	2.1.4.1/ 2-21	Para. 1/ Line 8	Figure 2.1.9 shows more than 18 months for AE installation.	A	Figure has been revised.
	5	2.1.4.2/ 2-25	Para. 4/ Line 2	Eighteen months also referenced here.	A	Text has been revised.
	6	2.3.10/ 2-56	Para. 3/ Line 1 Para. 4/ Line 2	No impact to South Base off-base "slower average speed." So what.	N	
	7	2.3.11/ 2-57	Para. 4/ Line 1	Potentially - definitely for post T-O.	N	
	8	2.5.2.1/ 4-56	Para. 1/ Line 1	Weather tower at SLC-7? 25' tower - portable, permanent.	A	Text has been revised to show that a new tower would be constructed at SLC-7.
	9	4.7.1/ 4-75	Para. 3/ Line 5 Para. 4/ Line 2	Normal launch ~100 dBA in Lompoc 170 dBA at pad ? explosion ~90 dBA in Lompoc 200 dBA at pad	A	Text has been revised to explain terrain/distance effects on noise from explosion.
	10	4.10.1/ 4-97	Para. 1/ Line 6	No one from north of Santa Maria?	N	The potential fraction of the work force that would be from outside of Santa Maria and Lompoc is so small that it was not listed.

03/15/89

21

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 2

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Lt. Gene Branch USAF WSMC/STAS	1	2.1.1/ 2-2	Para. 1/ Line 4	SLC-4W has already been modified for the Titan II. SLC-4E is being modified at this time.	A	Text has been revised to reflect SLC-4 status.
	2	2.1.1/ 2-2	Para. 2/ Line 8	ETR should be ESMC.	A	Text has been revised.
	3	2-5	Fig. 2.1.3	Change Parking Lot area.	A	Figure has been revised.
	4	2-7	Fig. 2.1.4	Change Parking Lot area.	A	Figure has been revised.
	5	2-8	Fig. 2.1.5	Change Parking Lot area.	A	Figure has been revised.
	6	2.1.3.1/ 2-10	Para. 2/ Line 1	Up to 84 feet long.	A	Text has been revised.
	7	2.1.3.2 2-11	Para. 2/ Line 1	An MLP is no longer required. A Launch Mount may be a better way to say it.	A	Text and figure have been revised.
	8	2-14	Fig. 2.1.7	The laydown area below the RR may be a problem.	N	
	9	2.1.3.4/ 2-18	Para. 2	Will Bldg. 398 be modified? If so, it will be by SLC-4.	A	Deleted reference to modification by SLC-7 in text.
	10	2.1.3.5/ 2-19	Para. 1/ Line 1	A mission safety plan will be developed for each mission.	A	Text has been revised.
	11	2-22	Fig. 2.1.9	If possible, we may want to push the number of construction personnel even higher.	N	
	12	2.1.4.1/ 2-24	Para. 2/ Line 8	No security vaults at 8510. Maybe some small electrical vaults.	A	Text has been revised.
	13	2.1.4.2/ 2-25	Para. 4/ Line 6	MST will be shipped in modules.	A	Text has been revised.
	14	2.1.5.1/ 2-26	Para. 4/ Line 1	"activities involve assembly and testing..."	A	Text has been revised.
	15	2.1.5.1/ 2-28	Para. 1/ Line 3	There is more ordinance than just stage separation.	A	Text has been revised.
	16	2.2.4.1/ 2-37	Para. 3	If we build at the Boathouse, we would have to relocate the railroad.	R	Based on latest plans, this would not be necessary.
	17	2.4/ 2-62	2.4.3/ Item 1	When in our schedule should we plan to let people recover plans?	N	Prior to construction, at the discretion of ET.
	18	2.4/ 2-62	2.4.4/ Item 1	Is the construction restoration plan in the Erosion Control and Rec. Plan?	N	Outside of the scope of this document.

03/15/89

22

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 2 of 2

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Lt. Gene Branch USAF WSMC/STAS	19	2.4/ 2-63	2.4.4/ Item 3	Who will hire the qualified biologist?	N	Outside of the scope of this document.
	20	2.4/ 2-64	2.4.6/ Item 3	Have we specified the use of low metal paints?	N	This is suggested since it was utilized at SLC-6.
	21	2.4/ 2-65	2.4.7/ Item 2	Who will monitor the rock art site?	N	Outside of the scope of this document.
	22	2.4/ 2-66	2.4.9/ Item 3	In general, we need to know how to work the hiring of the monitors into our schedule.	N	Outside of the scope of this document.

03/15/89

23

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
E. R. Phillips Fluor Daniel		General		Review limited to only Sections 2 and 4 of Volume 1 in accordance with COE Scope of Work provided Fluor Daniel.	N	
	1	2-7	Fig. 2.1.4	a) The sewage percolation ponds should be shown. b) Suggest note be added "Layout subject to Fluor Daniel."	A R	Drawing was revised. Not necessary in this document.
	2	2.1.3.3 2-15	Para. 4/ Line 7	"Potable Water," next to last sentence - should be revised to reflect the following: The water system has two connections, the V-33 Building and the existing 1.25M gal. storage tank.	A	Text has been revised to clarify water supply system.
	3	2-23	Fig. 2.1.10	Are the spoil and borrow sites approved? It is my understanding that they are still under review as to their use.	R	Spoil and borrow sites are as per latest design and are approved.
	4	2.5/ 2-71	2.5.6/ Item 1/ Line 2	Cypress Ridge, item 1. Suggest adding after SLC-7 in line 2 "After on-site treatment."	A	Text has been revised.
	5	4-53	Table 4.5.3	Are the concrete transit mix trucks included in the "Haul Truck" type? If not, they should be added.	A	Haul trucks have been added to total.
	6	4.9.2.1/ 4-87, 4-88	Para. 5	Paragraph "Underground Piping, Communications, and Surface Electric Power." The details of the locations and extent of the Archaeological sites discussed in this paragraph should be provided to Fluor Daniel.	N	These items will be provided to Fluor Daniel.

03/15/89

24

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Murray Meierhoff Sverdrup	1	Summary/ E-2	Para. 6/ Line 3	Inconsistencies noted: The site is stated as "at least 60 miles from the nearest potential active fault." Information on Table 3.1.2 indicates at least 12 potentially active or active faults within this distance.	A	Test revised to match Table 3.1.2.
	2	2-23	Fig. 2.1.10	Proposed borrow pits are located adjacent to the Santa Ynez River. These riparian areas are often ecologically sensitive and subject to erosion and blowout during high-water stages. The Manzanita Road site should be preferable for borrow pit locations.	N	
	3	2.1.4.2/ 2-25	Para. 5	Following the discussion of Facility Construction activities, all discussion of site reclamation activities has been deleted. The previous PDEIS included a lengthy section on site reclamation, including revegetation. Mitigative or engineering measures that may impact our design:	N	This section is now contained in Section 2.1.4.1
	4	1.5.5.1/ 1-20	Para. 2/ Line 10	The SLC-7 wastewater system capacity has been increased from 14,000 GPD to 36,000 GPD. Our design should be checked for adequate capacity in this system.	N	
	5	2.1.3.2/ 2-11 2.1.5.2/ 2-30	Para. 1 Para. 1	Sound suppression water has been deleted from the Launch Support Structure. This change will decrease water usage slightly, but may increase damage to LSS equipment from high vibration/noise levels.	N	
	6	2.1.3.3/ 2-13	Para. 2	The Aerazine 50 RSV is still a single 40,000-G tank, with a subsequently required 175,000-G containment area. Site geometry and safety would probably benefit from a change to four 10,000-G tanks in a 40,000-G containment (see my 10-26-88 memo).	N	
	7	2.1.4.1/ 2-21	Para. 3	Earth movement at the site is expected to be approximately 1.5 million c.y. of cut and fill. The previous PDEIS expected 2-3 million c.y. of cut and 0.5 million c.y. of fill. Proposed elevations of the various components of SLC-7 should be checked for proper flow and liquid storage capacities.	N	
	8	4.6.2.2/ 4-66	Para. 2	If the SLC-6 evaporation ponds are utilized to treat the SLC-7 launch wastewater, the ponds would have to be upgraded to meet California Class II impoundment specifications. The responsibility for this upgrade should be established among the client, designers, and contractors.	N	

03/15/89

25

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Major Robert J. Sarvaidoo USAF AFSC/XTHO	1	General		We do not feel the alternative sites have been adequately addressed. How hard is the requirement for a 10,000-pound payload, polar orbit? Is this the minimum national security requirement? Additional comments follow:	A	Text has been revised.
	2			Why is Cape Kennedy unable to perform a polar orbit? The reason stated appears to be a dogleg maneuver which requires additional fuel and substantially reduces the 10,000-lb requirement. The report needs to state the actual payload reduction.	A	Text has been revised.
	3			Why is SLC-6 not acceptable? SLC-6 as an alternative is not adequately addressed. What is the window when the Space Shuttle will be phased out (1999)? What is the first Titan IV Centaur Launch (1995)? What is the probability of using SLC-6 as primary for Titan IV Centaur/backup for Space Shuttle? How much modification would be required to SLC-6 to make it Titan IV Centaur capable? What would be the costs savings (both financial and environmental)?	A	SLC-6 has been added as an alternative site. Cost data are not available from USAF.
	4	General		Point of contact is Major Hathaway, 22364, XTHO.	N	

03/15/89

26

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 4

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Capt. Julie Fegley USAF AFSC/JAM	1	General		Ensure Bixby Ranch development potential is not discussed. Discuss acquisition as a mitigation for safety or noise impacts.	R	Acquisition is being pursued by USAF in a separate, unrelated action.
	2	General		Make safety section into a separate chapter combining env. setting and impacts sections for coherent discussion on concerns. Should contain much more detail.	R	A separate Risk Assessment is being prepared and will address issues in more detail.
	3	General		Need to discuss in each resource what would make an impact significant. What is the methodology? i.e., 15% increase in water use significant? What makes it significant? Need to discuss significance in terms of both context and intensity. CEQ §1508.27.	A	Text has been revised.
	4	Summary/ E-2	Para. 2	This paragraph states that other launch vehicles and alternate locations were considered, but determined not to be feasible. In what document were these alternatives evaluated?	N	References provided in Section 2.2 of this document.
	5	Summary/ E-2	Para. 3/ Line 1	The No-Action Alternative is a required consideration.	A	Text has been revised.
	6	1.1/ 1-1	Para. 2/ Lines 10&11	Line 10 - Remove reference to CEQA.	A	Text has been revised.
				Line 11 - It is not true that "NEPA requires that provisions of CEQA, if more stringent, be incorporated into the NEPA process."	A	Text has been revised.
	7	1.1/ 1-1	Para. 3/ Bullet 1	Regarding NOI - Did the NOI identify the alternatives listed on the cover sheet?	N	No.
				When were these alternatives determined to be nonfeasible?	N	Alternatives were examined and evaluated in preparation of this document as a part of the EIA/P.
	8	1.5.3.2/ 1-14	Para. 1/ Line 3	Why hasn't the SLC-7 Coastal Consistency Determination been included in the Appendix? (Bio. Assessment)	N	It will be made available upon release of DEIS to the public.
	9	2.2.2.2/ 2-34	Para. 1	Re: Hawaii as alternative project location -- "environmental issues would be similar to, or greater than, those for the proposed VAFB site." -- This is not the point.	A	Text has been revised.
	10	2.2.2.2/ 2-34	Para. 2	This paragraph states that other Pacific locations have been determined not to be feasible and have been eliminated from further consideration. Have you really done the analysis?	N	No further information available from USAF regarding Pacific locations.

03/15/89

27

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 2 of 4

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Capt. Julie Fegley USAF AFSC/JAM	11	3.1.2.3/ 3-5	Paras. 3&4	These paragraphs need support (references).	A	Text has been revised.
	12	3.1.2.4/ 3-5	Para. 5/ Line 7	Why do you say that, "The 1927 event <u>may</u> have occurred within...."?	N	The exact epicenter is not known, but evidence indicates probability of such location.
	13	3.3.2/ 3-33	Para. 1/ Line 3	Is erosion associated with the borrow site?	N	Erosion analysis is contained in Section 4.1.
	14	3.3.2.1/ 3-33	Paras. 4&5	Re: Section on Special Interest Plants -- This section is fascinating but irrelevant. It should be shortened considerably.	N	Federal candidate plant species and other special interest plants represent legitimate issues for detailed analysis, and are of particular interest to the California Native Plant Society.
	15	3.13.1.2/ 3-147	Para. 2/ Line 6	Remove the sentence, "The owners of Bixby Ranch are evaluating the development of their property pursuant to these regulations." Let them make that comment. Discuss current land use.	A	Text has been deleted.
	16	4.1.1/ 4-1	Para. 3/ Line 3	Following "...the magnitude of the earthquake." -- and?	A	Text has been revised.
	17	4.1.2/ 4-3	Para. 1/ Line 1	What does this sentence mean?	A	Text has been deleted.
	18	4.1.2/ 4-3	Para. 1/ Line 2	Would the potential impacts from landslides, erosion, and earthquakes be significant?	N	Potential significance is discussed under each siting alternative.
	19	4.1.2.1/ 4-3	Para. 3/ Lines 4&5	Re: failure of cut sections -- Is this something that occurs often? What are the limits of impacts?	A	Text has been revised.
	20	4.1.2.1/ 4-3	Para. 4/ Lines 3&4	Add the word "substantially" to "will incorporate geotechnical results and <u>substantially</u> eliminate the potential for significant impacts from landslides."	A	Text has been revised.
				Also, how would they be eliminated?	A	Text has been revised.
	21	4.1.2.1/ 4-7	Para. 3/ Line 6	What are these proposed structures?	N	See Section 2.1.3, Project Description, for further discussion of project details.
	22	4.1.2.1/ 4-7	Para. 4/ Lines 6&7	Isn't it an assumed mitigation that we will build in seismic design?	N	Design elements are not considered mitigation measures. Information provided for completeness.
				How effective is this in decreasing susceptibility to seismic activity?	N	USAF Manual 88-3, Chapter 13, represents acceptable seismic risk reduction.

03/15/89

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 3 of 4

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Capt. Julie Fegley USAF AFSC/JAM	23	4.1.2.1/ 4-7	Para. 4/ Lines 8&9	What about fuels? What if the launch vehicle is on the pad?	A	Text has been revised.
	24	4.1.4.1/ 4-10	Paras. 1, 2 and 3	Re: landsliding mitigation measures -- Isn't this an assumed mitigation?	N	Design considerations are not considered to be mitigation measures.
	25	4.2.1/ 4-13	Para. 2/ Line 1	Re: "Ground water in the regional environment would be indirectly impacted..." What would be a direct impact?	N	Using water specifically for project requirements would be a direct impact (see Section 4.2.2).
	26	4.2.1/ 4-13	Para. 2/ Last line	Change could to would.	A	Text has been revised.
	27	4.2.2.1/ 4-14	Para. 3/ Line 4	Is this significant?	A	Yes. Text has been revised.
	28	4.2.4.1/ 4-18	Para. 3/ Line 2	Mitigation measures to control erosion are assumed.	N	Design criteria are not mitigation measures. They also are project-specific.
	29	4.2.4.1/ 4-18	Para. 3/ Line 4	That "low-use water fixtures would be installed" is also assumed.	N	Water saving features of design are noted in order to show USAF actions to ease water impacts.
				Does this impact analysis?	N	Results of the analysis would remain unchanged.
				Was analysis done with this factor assumed?	N	Analysis utilized reasonable worst-case conditions.
	30	4.3.2.1/ 4-21 4-22	Para. 4	Hasn't the power line been sited?	N	USAF wishes to maintain an option to the proposed power line corridor. Final siting of the poles is done in the field.
			Para. 1	What is the significance if wetlands cannot be avoided? See page 3-45.	N	Text has been revised to indicate that wetlands will be avoided.
	31	4.3.2.1/ 4-22	Para. 3/ Line 7	Are these high quality wetlands? Re: loss of Monardella at the southern limit of their range -- Is this really a significant impact? What is your methodology for determination of significance for this or any other resource?	N	Not applicable, since wetlands would not be impacted.
	32	4.3.2.1/ 4-23	Para. 2/ Line 5	Text says "...impacted to some extent by deposition." To what extent, in what way?	A	Text has been revised. Additional discussion of acidic deposition has been added as an Appendix.
	33	4.3.2.1/ 4-23	Para. 4	Put in Safety section, not here. This section should discuss impacts from "normal" operations and construction.	R	Impacts to plant life are not a health or safety concern.

03/15/89

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 4 of 4

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Capt. Julia Fogley USAF AFSC/JAM	34	4.3.2.3/ 4-26	Paras. 2 & 3	Significant? Possibly delete the sentence "Impacts from catastrophic events would be the same as described for the Cypress Ridge site."	A	Text has been revised.
	35	4.4.1.2/ 4-33	Paras. 1 & 2	Explain! Why? How? impacts would be significant.	A	Text has been revised.
	36	4.4.3.1/ 4-43	Para. 2 Line 4	Text says, "However, this impact would be insignificant." BECAUSE?	A	Text has been revised.
	37	4.4.3.1/ 4-43	Para. 2 Lines 5-9	Put in Safety section.	R	The potential impacts to birds are not considered to be health and safety issues, as the factors addressed are human health and safety.
	38	4.9.1.1/ 4-86	Para. 1/ Lines 4 & 5	The sentence "Further, it would not experience effects from overpressure during launch, as it is not within the flight trajectory of the Titan IV/Centaur" should be stated more clearly.	A	Text has been revised.
	39	4.9.2.1/ 4-86 to 4-87	Para. 5/ Line 4	What is the difference between this and second sentence of Paragraph 2?	N	Page 4-86 discusses a normal launch. Page 4-87 addresses "the explosion of the launch vehicle on the launch pad..."
	40	4.9.2.1/ 4-87	Para. 4/ Line 1	Why is "could be destructive" in quotes? How?	A	Text revised. Effects explained in lines 2-5 of same paragraph.
	41	4.13.1.2/ 4-125	Para. 3/ Lines 2-6	Why are we discussing this if it has not been proposed? What were they zoned for? Is what we are proposing going to change that land use?	A	Text has been revised.
	42	4.13.1.2/ 4-127	Para. 1/ Lines 2 & 3	This sentence sounds argumentative. What about Q-D zones?	A	Text has been revised.
	43	4.13.1.2/ 4-127	Para. 1	Unless acquisition has been funded, I wouldn't discuss this here. Discuss impacts of launch on current use. Discuss acquisition as a mitigation to prevent development.	N	Proposed action is consistent with Quantity-Distance criteria discussed on Page 2-20 under "Proposed Action and Alternatives."
	44	4.13.2.3/ 4-129	Para. 3/ Lines 1-3	What is the finding of the Coastal Consistency Determination?	R	The discussion is under Section 4.13.1.2, "Regional Land Use Plans." Discussions of current land use are contained in Sections 4.13.1.1 and 4.13.2.1.
					N	The finding is that the proposed action is a consistent use.

03/15/89

30

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Major Joseph E. Martin, Jr. USAF AFSC/SGPB	1	General		This document has the appearance of being written to support a decision that has already been made. This is contrary to NEPA and increases the likelihood that the document will be challenged in court.	C&R	[In progress January 27, 1989]
	2	General		A major shortcoming of the assessment is its lack of discussion on the effects of deposition of Al ₂ O ₃ . Will buildup of Al ₂ O ₃ in soil have an effect on plant life in the long term? Will there be any effect on the animal population resulting from an increased Al intake (increased Al levels in the plant life)? What about the effects of Al ₂ O ₃ deposition on the shallow coastal waters immediately downrange of Vandenberg AFB? On additional comment with respect to the Risk Assessment. The relative risk resulting from an accident can be assessed and compared with that of, say, driving a car or flying. I'm sure that the procedures in force at WSMC result in very low risk to the surrounding population. Putting these figures in the PDEIS will put to rest any questions, especially from those remembering the Titan accident of a few years ago.		Text has been revised. Information to address this question is not currently available. Information to address this question is not currently available. Due to dilution effects of ocean and low volume and infrequent occurrences of fallout, impacts are not expected. Relative risk comparisons are provided in Table 4.11.1. Additional details are provided in the Risk Assessment.
	3	General		Why can't the facilities be built? If cost is the reason, it should be so stated and figures given. If there would be resulting environmental impacts which would be unacceptable, then so state. Comment applies to Naval Pacific Test Range and other undeveloped sites.	N	Additional information is not available from USAF.
	4	2.2.2.1/ 2-33 and 2.2.2.2/ 2-33	Para. 2 Para. 3/ Line 3	Back up the statement "However, environmental issues would be similar to, or greater than, those for the proposed VAFB site." It would be nice to see the data--even rough costs.	N	Additional information is not available from USAF.
	5	2.2.2.2/ 2-34	Para. 1/ Lines 4&5	Sounds like site was rejected before decision was made. This is contrary to NEPA.	A	Text has been revised.
	6	2.2.2.2/ 2-34	Para. 2/ Lines 1, 2 and 3		N	This information is not available from USAF.
	7	2.2.4.1/ 2-37	Para. 2		A	Text has been revised.

03/15/89

31

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 2 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Major Joseph E. Martin, Jr. USAF AFSC/SGPB	8	2.2.5/ 2-40	Paras. 2&3	Okay.	N	Yes.
	9	2.3.4/ 2-48	Paras. 3&4	Do other launches also have this effect? (effects from focused sonic booms) Could there be adjustments in launch schedules to minimize impact?	N	The impact analysis concluded that impacts to marine mammals would be short-term and not significant. Adjustment of launch schedule, therefore, is not advocated.
	10	2.3.4/ 2-49	Para. 2/ Lines 1-4	What is the effect of HCL and Al ₂ O ₃ deposition? What about buildup in soils? Any effect on marine biota?	N	Effects of HCL and Al ₂ O ₃ are evaluated in Sections 4.3 and 4.4. It was determined that these effects would not be significant. Discussion is contained in Section 4.1.2. Discussion is contained in Section 4.4.3.
	11	2.3.5/ 2-51	Para. 3/ Line 3	Need a greater discussion on effects of HCL and Al ₂ O ₃ deposition, accumulation, etc.	R	Effects of HCL and Al ₂ O ₃ are addressed in Section 4.4.3.2. Detailed discussions are not appropriate in the Comparative Analysis.
	12	2.3.9/ 2-55	Para. 3 or 4	Could be mitigated.	N	Mitigation would involve pre-launch documentation and post-launch monitoring (see Section 4.9.4).
	13	2.3.10 2-56	Para. 4	Note: increased traffic and slower average speeds will increase air pollution. Cars are less efficient at lower speeds, and they are in the area for longer periods of time. Probably insignificant though (easily proven).	N	Transportation-related impacts to air quality are discussed in Section 4.5.
	14	2.3.11/ 2-57	Para. 3	What if resulting ground cloud drifts directly to Lompoc? This <u>must</u> be addressed. Can't mitigate as below.	A	Text has been revised.
	15	2.3.11/ 2-57	Para. 4	Should be mitigated by only launching with proper atmospheric conditions.	A	Risk Analysis discusses probabilities and potential results of catastrophic occurrences.
	16	3.2.1.2/ 3-21	Para. 1/ Lines 5&6	What about salt water intrusion?	A	Text has been revised.
	17	3-25	Table 3.2.1	Levels of iron should be 4.9, 0.394, and 17.0 (I hope!!!) Aluminum at 3,922, 516, and 9,500 mg/L, and sulfate at 980 mg/L are above limits.	N	Salt water intrusion has not been noted in the San Antonio Creek ground water basin.
	18	3-26	Table 3.2.2	Under the column RWQCB Drinking Water Standards, Copper - 1,000; Iron - 300; Manganese - 50; and Zinc - 5,000 -- these are not in mg/L.	A	Text has been revised.

03/15/89

32

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 3 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Major Joseph E. Marin, Jr. USAF AFSC/SGPB	19	3.5.1.3/ 3-74	Para. 4	Significance of VAFB emissions is important.	A	Text has been revised. Contribution of VAFB to regional emissions is further addressed in Section 4.5.1.
	20	4.3/ 4-21		Whole section needs discussion of effects of Al ₂ O ₃ deposition and buildup in soil.	A	Discussion has been included in Sections 4.1 and 4.3.2.1.
	21	4.3.2.1/ 4-22	Para. 4	Need to discuss result of Al ₂ O ₃ deposition.	A	Text has been revised.
	22	4.4.2/ 4-35	Para. 3	Need to discuss Al ₂ O ₃ deposition and buildup. Effects on biota?	A	Text has been revised (see Section 4.4.2.1).

03/15/89

33

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Donald A. Kane USAF LEEV	1	Cover Sheet	Para. 3	Last sentence in Section (e): delete "preferred" from before "alternative sites."	A	Text has been revised.
	2	Summary E-2	Para. 3/ Line 1	The no action alternative should be described as not desirable, rather than not feasible.	A	Text has been revised.
	3	Summary E-3	Para. 2/ Line 6	Vandenberg is generally west of Los Angeles, not north.	A	Text has been revised to reflect the northwest orientation of VAFB relative to the greater Los Angeles area.
	4	1.1/ 1-1	Para. 2/ Line 1	Delete first sentence, and simply start the second sentence with "This Environmental Impact Statement has been prepared in accordance with..."	A	Text has been revised.
	5	1.1/ 1-1	Para. 2/ Lines 11&12	Delete the next to the last sentence. We are not required to adopt more stringent state NEPA requirements.	A	Text has been revised.
	6	1.5/ 1-9		Does Section 1.5 need to go right up front? Seems to stick out and interrupt the flow of the story. Feel free to make it an appendix, or delete the narrative entirely (reducing the section to a list).	N	Text is useful as background for NEPA review.
	7	1.5.2.3/ 1-12	Para. 5	The description of the requirements of the American Indian Religious Freedom Act is not quite right. In fact, the courts are not in agreement as to what it requires. Substitute the following, which essentially quotes the statute itself: The American Indian Religious Freedom Act (P.L. 95-341; 92 Stat. 470) states that it is the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.	A	Text has been revised.
	8	1.5.5.7/ 1-22	Para. 3/ Line 7	Why are CERCLA and SARA included if, as stated in the last sentence, they do not apply to the proposed action?	N	Text has been revised. CERCLA and SARA do apply to proposed action.
	9	2.1.1/ 2-1	Para. 4/ Line 7	Item (4) speaks of phasing down the Space Shuttle at Vandenberg. Other places in the EIS, however, suggest that what to do has not been decided (e.g., Page 2-31, and the last line of Page 2-34.) I cannot tell whether this is inconsistent.	N	While phase-down is a USAF stated goal, facilities are being retained for potential utilization.

03/15/89

34

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 2 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Donald A. Kane USAF LEEV	10	2.2.2.1/ 2-33	Paras. 1 & 2	The explanation for rejecting the Naval Pacific Test Range might benefit from some further elucidation. It may really be OK, but it may also be suffering from a "not Navy" emphasis. I cannot tell.	N	No further information is available from USAF to address this issue.
	11	2.2.2.2/ 2-33 & 2-34		The various alternative locations should be rejected for being "unreasonable" rather than "not feasible," since the gist of the explanation is that extraordinary effort would be required.	A	Text has been revised.
	12	2.3/ 2-41		Section 2.3 - Comparative analysis. For what it's worth, I like what they did here.	N	
	13	2.3.13/ 2-58	Para. 3/ Lines 9-11	Land use, third sentence from the end. Suggest that it be deleted and replaced with "Therefore, the Air Force has begun a detailed study to evaluate land acquisition of potentially affected private lands near VAFB. The Bixby Ranch has been informed of these plans."	A	Text has been revised.
	14	General		General comment: I think it is better to speak of "the Air Force" throughout the document, rather than "the USAF." The acronym seems so cold.	R	The acronym is used for ease of reading and economy of space.
	15	3.9/ 3-96	Para. 1/ Line 2	How can we provide FOUO documents to the SHPO, the Advisory Council, and the Indians? Would not that implicitly remove the designation? And if it really does remain FOUO, should we not just state that we provided "complete details," rather than tease the reader with an FOUO document by name? (Red capes and bulls, you know.) The same comment exists with respect to the last sentence in Section 3.9.2.2 (Page 3-102).	A	Text has been revised.
	16	3.11.2.1/ 3-123	Para. 3	The document speaks of "accidents" here and in Chapter 4. Perhaps it would be useful to define the word? We may be considering events which lend credence to our assertion that an accident would not necessarily result in tank ruptures or spills.	A	Text has been revised.
	17	4.2.2/ 4-14		Describes the water impacts as significant, because operational use will overdrift by about 45 acre-feet a year. Separately, regional use would increase overdrifting by about 300 acre-feet (just normal growth of the area by 1995 being expected to increase consumption by 22,000 acre-feet). The EIS conclusion results from a determination that any increase in the overdrift situation is "significant." I'm not going to fight over it, but that altitude does seem to me to trivialize the word. Both 45 and 22,000 acre-feet are "significant." Ho hum.	N	

03/15/89

35

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 3 of 3

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Col. Donald A. Kane USAF/LEE	18	4.13.1.2/ 4-127	Para. 1	Delete the first full sentence. (We may well purchase fee title.) For the second full sentence, delete "In the interim" and begin with "The Air Force will also continue to oppose..."	A	Text has been revised.
	19	4.7.1/ 4-75	Para. 3 & 4	If a launch generates 170 dBA at the launch pad, and 100 dbA at Lompoc, how can an explosion which generates 200 dBA at the pad only generate 90 dBA at Lompoc?	A	Text has been revised to clarify this apparent inconsistency.
		General		Our action officer is 2Lt Shelley Zuehlke at AUTOVON 297-4156.	N	

03/15/89

36

PRELIMINARY SLC-7 DRAFT EIS REVIEW COMMENTS AND RESPONSES

Page 1 of 1

REVIEWER/ ORGANIZATION	COMMENT NO.	SECT. NO./ PAGE NO.	PARA. NO./ LINE NO.	COMMENTS	ACTION	REVISION TO TEXT OR REASON FOR ACTION
Dennis Lee Potter Corps of Engineers Vandenberg AFB	1	4.11.1.2/ 4-113		<p>If Hydrazine and UDMH retain their individual incompatibilities in Aerozine-50, then please add the following to the list of potential ignition sources:</p> <ul style="list-style-type: none"> metal oxides (hydrazine) halogens (UDMH) <p>Reference NIOSH "Pocket Guide to Chemical Hazards". The fact that "rust" could cause this chemical to ignite is important when it comes to deciding what materials are to be used to store and transport this chemical.</p>	R	<p>Regulations followed by USAF pertaining to the handling and storage of hypergolics are listed in WSMCR 127-1, 1STRADR 127-200, and AFR 127-100. These regulations are sufficiently detailed to preclude the use of incompatible materials with the hypergolics.</p>
	2	General		<p>Consider replacing the word "will" with "shall". In a document the word "will" may or may not get the required action. However, the word "shall" is more binding and the required action is done. This is a small point, but it does close some loopholes.</p>	R	<p>Typically in NEPA documents, the words "will" and "shall" have identical meanings.</p>

03/15/89

37